Sequence Listing

Goddard Audrey Strebetts Fi, Paul J. Gurney, Austin L. Mark, Melanie R. Yang, Ruey-Bing

<120> HUMAN TOLL HOMOLOGUES

<130> P1154R2

<140> US 09/202,054 <141> 1998-12-07

<150> PCT/US98/21141

<151> 1998-10-07

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non	Cys	ı yı	185	nrg	71311	110	Cys	190	var	261	1 y L	JCL	195
Lys	Asp	Ala	Phe 200	Leu	Asn	Leu	Thr	Lys 205	Leu	Lys	Val	Leu	Ser 210
Lys	Asp	Asn	Asn 215	Val	Thr	Ala	Val	Pro 220	Thr	Val	Leu	Pro	Ser 225
Leu	Thr	Glu	Leu 230	Tyr	Leu	Tyr	Asn	Asn 235	Met	Ile	Ala	Lys	Ile 240
Glu	Asp	Asp	Phe 245	Asn	Asn	Leu	Asn	Gln 250	Leu	Gln	Ile	Leu	Asp 255
Ser	Gly	Asn	Cys 260	Pro	Arg	Суѕ	Tyr	Asn 265	Ala	Pro	Phe	Pro	Cys 270
Pro	Cys	Lys	Asn 275	Asn	Ser	Pro	Leu	Gln 280	Ile	Pro	Val	Asn	Ala 285
Asp	Ala	Leu	Thr 290	Glu	Leu	Lys	Val	Leu 295	Arg	Leu	His	Ser	Asn 300
Leu	Gln	His	Val 305	Pro	Pro	Arg	Trp	Phe 310	Lys	Asn	Ile	Asn	Lys 315
Gln	G.Lu	Leu	Asp 320	Leu	Ser	Gln	Asn	Phe 325	Leu	Ala	Lys	Glu	Ile 330
Asp	Al.a	Lys	Phe 335	Leu	His	Phe	Leu	Pro 340	Ser	Leu	Ile	Gln	Leu 345
Leu	Ser	Phe	Asn 350	Phe	Glu	Leu	Gln	Val 355	Tyr	Arg	Ala	Ser	Met 360
Leu	Ser	Gln	Ala 365	Phe	Ser	Ser	Leu	Lys 370	Ser	Leu	Lys	Ile	Leu 375
Ile	Arg	Gly	Tyr 380	Val	Phe	Lys	Glu	Leu 385	Lys	Ser	Phe	Asn	Leu 390
Pro	Leu	His	Asn 395	Leu	Gln	Asn	Leu	Glu 400	Val	Leu	Asp	Leu	Gly 405
Asn	Phe	Ile	Lys 410	Ile	Ala	Asn	Leu	Ser 415	Met	Phe	Lys	Gln	Phe 420
Arg	Leu	Lys	Val 425	Ile	Asp	Leu	Ser	Val 430	Asn	Lys	Ile	Ser	Pro 435
Gly	Asp	Ser	Ser 440	Glu	Val	Gly	Phe	Cys 445	Ser	Asn	Ala	Arg	Thr 450
Val	Glu	Ser	Tyr 455	Glu	Pro	Gln	Val	Leu 460	Glu	Gln	Leu	His	Tyr 465
Arg	Tyr	Asp	Lys 470	Tyr	Ala	Arg	Ser	Cys 475	Arg	Phe	Lys	Asn	Lys 480
Ala	Ser	Phe	Met 485	Ser	Val	Asn	Glu	Ser. 490	Cys	Tyr	Lys	Tyr	Gly 495
	Lys Lys Lys Leu Glu Ser Pro Asp Leu Gln Asp Leu Asp Cly Val Arg	Lys Asp Lys Asp Leu Thr Glu Asp Ser Gly Pro Cys Asp Ala Leu Gln Gln Glu Asp Ala Leu Ser Leu Ser Ile Arg Pro Leu Asn Phe Arg Leu Gly Asp Val Glu Arg Tyr	Lys Asp Ala Lys Asp Asn Leu Thr Glu Glu Asp Asp Ser Gly Asn Pro Cys Lys Asp Ala Leu Leu Gln His Gln Glu Leu Asp Ala Lys Leu Ser Phe Leu Ser Phe Leu Ser Gln Ile Arg Gly Pro Leu His Asn Phe Ile Arg Leu Lys Gly Asp Ser Val Glu Ser	Lys Asp Ala Phe 200 Lys Asp Asn Asn 215 Leu Thr Glu Leu 230 Glu Asp Phe 245 Ser Gly Asp Phe 245 Ser Gly Asp 260 Pro Cys Lys Asp Asp Ala Leu Thr Asp Ala Lys Phe 335 Leu Ser Phe Asn 335 Leu Ser Phe Asn 335 Leu Ser Gln Ala Jew Ser Gln Ala Asp Gly Tyr Asn Phe Lys Asn Phe Lys Asn Phe Lys Arg Tyr Asp Lys <tr< td=""><td>Lys Asp Ala Phe Leu Lys Asp Asn Asn Val Leu Thr Glu Leu Tyr Glu Asp Phe Asn Ser Gly Asn Cys Pro Pro Cys Lys Asn Asn Asp Ala Leu Thr Glu Leu Gln His Yal Pro Asp Ala Lys Phe Asn Phe Leu Ser Phe Asn Phe Leu Ser Gly Tyr Val Pro Leu His Asn Leu Asn Phe Jas Leu Asn Phe Lys Lu Asn Phe Lys Lu Asn Phe Lys Glu Asn Phe Lys Glu Asn Phe Lys Glu Asn Phe Lys Glu</td><td>Lys Asp Ala Phe 200 Leu Asn Lys Asp Asn Phe 215 Val Thr Leu Thr 215 Val Thr Leu Thr 215 Val Thr Glu Asp Asp Phe Asn Asn Ser Gly Asp Phe Arg Arg Pro Cys Lys Asn Ser Asp Ala Leu Thr Pro Pro Gln Glu Leu Asn Phe Glu His Asp Ala Lys Phe Leu His Asp Ala Lys Phe Glu Phe Leu Ser Ala Phe Ser Glu Phe Leu Ber Tyr Val Phe Pro Leu His Asp Leu Glu Asr Phe Lys Ile Ala Arg Leu Lys Ile<</td><td>Lys Asp Ala Phe Leu Asn Leu 200</td><td>Lys Asp Ala Phe 200 Leu Asn Leu Thr Lys Asp Asn 215 Val Thr Ala Val Leu Thr Glu Leu Tyr Leu Tyr Asn Glu Asp Asp Phe Asn Asn Leu Asn Ser Gly Asn Cys Pro Arg Cys Tyr Asp Asp Asp Asp Asp Asp Asp Tyr Asp Ala Leu Tyr Glu Leu Leu Tyr Asp Tyr Asp Tyr Asp Tyr Asp Tyr Tyr Asp Tyr Tyr Asp Tyr Tyr Tyr Asp Leu Asp</td><td>Lys Asp Ala Phe 200 Leu Asn Leu Thr Lys 205 Lys Asp Asn Asn Leu Thr Ala Pro 205 Luy Asp Asn Asn Leu Tyr Asn Val 220 Lu Thr Glu Leu Tyr Asn Asn Leu Asn 235 Ser Gly Asn Cys Pro Arg Cys Tyr Asn Asn Leu Asn 265 Pro Cys Lys Asn Asn Ser Pro Leu 265 Pro Cys Lys Asn Asn Ser Pro Leu 265 Pro Cys Lys Asn Asn Ser Pro 265 Pro Leu 265 Asn Ala Leu Asn Leu Leu 280 Pro Asn Reu Pro</td><td>Lys Asp Ala Phe 200 Leu Asn Leu Thr Lys Leu 205 Lys Asp Asn Asn Val Thr Ala Val Pro 205 Thr Leu Thr Glu Leu Tyr Leu Tyr Asn Asn Asn Asn Leu Tyr Asn Asn Asn Leu Tyr Asn Asn Asn Leu Asn Asn Asn Asn Leu Asn Asn Asn Asn Leu Asn <td< td=""><td>Lys Asp Ala Phe 200 Leu Asn Leu Thr Lys Leu Lys Lys Asp Asp Phe 200 Leu Asn Leu Thr Lys Leu Lys Leu Thr Asp Asp Phe 230 Thr Ala Val Phe 235 Thr Val Val Phe 235 Met Ile Asp Asp Phe 245 Asp Leu Tyr Asp Asp Asp Phe 245 Asp Leu Asp Asp Asp Phe 245 Asp Asp</td><td>Lys Asp Ala Phe Leu Asn Leu Thr Lys Leu Lys Val Lys Asp Asn Asn Asn Val Thr Ala Val Pro Thr Val Leu Leu Thr Glu Leu Tyr Leu Tyr Asn Asn Met Ile Ala Ser Gly Asn Cys Pro Arg Cys Tyr Asn Ala Pro Phe Pro Cys Lys Asp Asn Son Pro Pro Leu Lys Val Leu Gln His Son Pro Pro Arg Tyr Val Leu Gln His Son Pro Pro Arg Tyr Pro Pro Pro Son Arg Leu His Ser Glu Asn Son Pro Pro Pro Pro Pro Pro Pro Pro Pro Pro</td><td>Lys Asp Ala Zeno Leu Asp Leu Thy Leu Lys Leu Lys Val Leu Lys Asp Asp Asp Val Thr Ala Val Pro Thr Val Leu Pro Asp Asp Leu Pro Asp Asp</td></td<></td></tr<>	Lys Asp Ala Phe Leu Lys Asp Asn Asn Val Leu Thr Glu Leu Tyr Glu Asp Phe Asn Ser Gly Asn Cys Pro Pro Cys Lys Asn Asn Asp Ala Leu Thr Glu Leu Gln His Yal Pro Asp Ala Lys Phe Asn Phe Leu Ser Phe Asn Phe Leu Ser Gly Tyr Val Pro Leu His Asn Leu Asn Phe Jas Leu Asn Phe Lys Lu Asn Phe Lys Lu Asn Phe Lys Glu Asn Phe Lys Glu Asn Phe Lys Glu Asn Phe Lys Glu	Lys Asp Ala Phe 200 Leu Asn Lys Asp Asn Phe 215 Val Thr Leu Thr 215 Val Thr Leu Thr 215 Val Thr Glu Asp Asp Phe Asn Asn Ser Gly Asp Phe Arg Arg Pro Cys Lys Asn Ser Asp Ala Leu Thr Pro Pro Gln Glu Leu Asn Phe Glu His Asp Ala Lys Phe Leu His Asp Ala Lys Phe Glu Phe Leu Ser Ala Phe Ser Glu Phe Leu Ber Tyr Val Phe Pro Leu His Asp Leu Glu Asr Phe Lys Ile Ala Arg Leu Lys Ile<	Lys Asp Ala Phe Leu Asn Leu 200	Lys Asp Ala Phe 200 Leu Asn Leu Thr Lys Asp Asn 215 Val Thr Ala Val Leu Thr Glu Leu Tyr Leu Tyr Asn Glu Asp Asp Phe Asn Asn Leu Asn Ser Gly Asn Cys Pro Arg Cys Tyr Asp Asp Asp Asp Asp Asp Asp Tyr Asp Ala Leu Tyr Glu Leu Leu Tyr Asp Tyr Asp Tyr Asp Tyr Asp Tyr Tyr Asp Tyr Tyr Asp Tyr Tyr Tyr Asp Leu Asp	Lys Asp Ala Phe 200 Leu Asn Leu Thr Lys 205 Lys Asp Asn Asn Leu Thr Ala Pro 205 Luy Asp Asn Asn Leu Tyr Asn Val 220 Lu Thr Glu Leu Tyr Asn Asn Leu Asn 235 Ser Gly Asn Cys Pro Arg Cys Tyr Asn Asn Leu Asn 265 Pro Cys Lys Asn Asn Ser Pro Leu 265 Pro Cys Lys Asn Asn Ser Pro Leu 265 Pro Cys Lys Asn Asn Ser Pro 265 Pro Leu 265 Asn Ala Leu Asn Leu Leu 280 Pro Asn Reu Pro	Lys Asp Ala Phe 200 Leu Asn Leu Thr Lys Leu 205 Lys Asp Asn Asn Val Thr Ala Val Pro 205 Thr Leu Thr Glu Leu Tyr Leu Tyr Asn Asn Asn Asn Leu Tyr Asn Asn Asn Leu Tyr Asn Asn Asn Leu Asn Asn Asn Asn Leu Asn Asn Asn Asn Leu Asn Asn <td< td=""><td>Lys Asp Ala Phe 200 Leu Asn Leu Thr Lys Leu Lys Lys Asp Asp Phe 200 Leu Asn Leu Thr Lys Leu Lys Leu Thr Asp Asp Phe 230 Thr Ala Val Phe 235 Thr Val Val Phe 235 Met Ile Asp Asp Phe 245 Asp Leu Tyr Asp Asp Asp Phe 245 Asp Leu Asp Asp Asp Phe 245 Asp Asp</td><td>Lys Asp Ala Phe Leu Asn Leu Thr Lys Leu Lys Val Lys Asp Asn Asn Asn Val Thr Ala Val Pro Thr Val Leu Leu Thr Glu Leu Tyr Leu Tyr Asn Asn Met Ile Ala Ser Gly Asn Cys Pro Arg Cys Tyr Asn Ala Pro Phe Pro Cys Lys Asp Asn Son Pro Pro Leu Lys Val Leu Gln His Son Pro Pro Arg Tyr Val Leu Gln His Son Pro Pro Arg Tyr Pro Pro Pro Son Arg Leu His Ser Glu Asn Son Pro Pro Pro Pro Pro Pro Pro Pro Pro Pro</td><td>Lys Asp Ala Zeno Leu Asp Leu Thy Leu Lys Leu Lys Val Leu Lys Asp Asp Asp Val Thr Ala Val Pro Thr Val Leu Pro Asp Asp Leu Pro Asp Asp</td></td<>	Lys Asp Ala Phe 200 Leu Asn Leu Thr Lys Leu Lys Lys Asp Asp Phe 200 Leu Asn Leu Thr Lys Leu Lys Leu Thr Asp Asp Phe 230 Thr Ala Val Phe 235 Thr Val Val Phe 235 Met Ile Asp Asp Phe 245 Asp Leu Tyr Asp Asp Asp Phe 245 Asp Leu Asp Asp Asp Phe 245 Asp Asp	Lys Asp Ala Phe Leu Asn Leu Thr Lys Leu Lys Val Lys Asp Asn Asn Asn Val Thr Ala Val Pro Thr Val Leu Leu Thr Glu Leu Tyr Leu Tyr Asn Asn Met Ile Ala Ser Gly Asn Cys Pro Arg Cys Tyr Asn Ala Pro Phe Pro Cys Lys Asp Asn Son Pro Pro Leu Lys Val Leu Gln His Son Pro Pro Arg Tyr Val Leu Gln His Son Pro Pro Arg Tyr Pro Pro Pro Son Arg Leu His Ser Glu Asn Son Pro	Lys Asp Ala Zeno Leu Asp Leu Thy Leu Lys Leu Lys Val Leu Lys Asp Asp Asp Val Thr Ala Val Pro Thr Val Leu Pro Asp Asp Leu Pro Asp Asp

Gln Asn Cys Tyr Tyr Arg Asn Pro Cys Tyr Val Ser Tyr Ser Ile

Gln	Thr	Leu	Asp	Leu 500	Ser	Lys	Asn	Ser	Ile 505	Phe	Phe	Val	Lys	Ser 510
Ser	Asp	Phe	Gln	His 515	Leu	Ser	Phe	Leu	Lys 520	Суѕ	Leu	Asn	Leu	Ser 525
Gly	Asn	Leu	Ile	Ser 530	Gln	Thr	Leu	Asn	Gly 535	Ser	Glu	Phe	Gln	Pro 540
Leu	Ala	Glu	Leu	Arg 545	Tyr	Leu	Asp	Phe	Ser 550	Asn	Asn	Arg	Leu	Asp 555
Leu	Leu	His	Ser	Thr 560	Äla	Phe	Glu	Glu	Leu 565	His	Lys	Leu	Glu	Val 570
Leu	Asp	Ile	Ser	Ser 575	Asn	Ser	His	Tyr	Phe 580	Gln	Ser	Glu	Gly	Ile 585
Thr	His	Met	Leu	Asn 590	Phe	Thr	Lys	Asn	Leu 595	Lys	Val	Leu	Gln	Lys 600
Leu	Met	Met	Asn	Asp 605	Asn	Asp	Ile	Ser	Ser 610	Ser	Thr	Ser	Arg	Thr 615
Met X	Glu	Ser	Glu	Ser 620	Leu	Arg	Thr	Leu	Glu 625	Phe	Arg	Gly	Asn	His 630
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Phe	Lys	Asn	Leu	Leu 650	Lys	Leu	Glu	Glu	Leu 655	Asp	Ile	Ser	Lys	Asn 660
Ser	Leu	Ser	Phe	Leu 665	Pro	Ser	Gly	Val	Phe 670	Asp	Gly	Met	Pro	Pro 675
Asn	Leu	Lys	Asn	Leu 680	Ser	Leu	Ala	Lys	Asn 685	Gly	Leu	Lys	Ser	Phe 690
Ser	Trp	Lys	Lys	Leu 695	Gln	Cys	Leu	Lys	Asn 700	Leu	Glu	Thr	Leu	Asp 705
Leu	Ser	His	Asn	Gln 710	Leu	Thr	Thr	Val	Pro 715	Glu	Arg	Leu	Ser	Asn 720
Cys	Ser	Arg	Ser	Leu 725	Lys	Asn	Leu	Ile	Leu 730	Lys	Asn	Asn	Gln	Ile 735
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Tyr	Leu	Asp	Leu	Ser 755	Ser	Asn	Lys	Ile	Gln 760	Met	Ile	Gln	Lys	Thr 765
Ser	Phe	Pro	Glu	Asn 770	Val	Leu	Asn	Asn	Leu 775	Lys	Met	Leu	Leu	Leu 780
His	His	Asn	Arg	Phe 785	Leu	Cys	Thr	Cys	Asp 790	Ala	Val	Trp	Phe	Val 795
Trp	Trp	Val	Asn	His 800	Thr	Glu	Val	Thr	Ile 805	Pro	Tyr	Leu	Ala	Thr 810

Asp Val Thr Cys Val Gly Pro Gly Ala His Lys Gly Gln Ser Val Ile Ser Leu Asp Leu Tyr Thr Cys Glu Leu Asp Leu Thr Asn Leu Ile Leu Phe Ser Leu Ser Ile Ser Val Ser Leu Phe Leu Met Val Met Met Thr Ala Ser His Leu Tyr Phe Trp Asp Val Trp Tyr Ile Tyr His Phe Cys Lys Ala Lys Ile Lys Gly Tyr Gln Arg Leu Ile 880 Ser Pro Asp Cys Cys Tyr Asp Ala Phe Ile Val Tyr Asp Thr Lys 890 Asp Pro Ala Val Thr Glu Trp Val Leu Ala Glu Leu Val Ala Lys 915 Leu Glu Asp Pro Arg Glu Lys His Phe Asn Leu Cys Leu Glu Glu Arg Asp Trp Leu Pro Gly Gln Pro Val Leu Glu Asn Leu Ser Gln 945 Ser Ile Gln Lou Ser Lys Lys Thr Val Phe Val Met Thr Asp Lys Tyr Ala Lys Thr Glu Asn Phe Lys Ile Ala Phe Tyr Leu Ser His Gln Arg Leu Met Asp Glu Lys Val Asp Val Ile Ile Leu Ile Phe 980 985 990 Leu Glu Lys Pro Phe Gln Lys Ser Lys Phe Leu Gln Leu Arg Lys 1000 Arg Leu Cys Gly Ser Ser Val Leu Glu Trp Pro Thr Asn Pro Gln 1010 1015

÷.

Asp Asn His Val Ala Tyr Ser Gln Val Phe Lys Glu Thr Val \$1040\$ $$210>\ 2$

<211> 3283 <212> DNA <213> Homo sapiens

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<210> 3 <211> 1041 <212> PRT <213> Homo sapiens

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Asp Gly Gly Ala Ser Ile Asn Ile Asp Arg Phe Ala Phe Gln Asn

Leu Thr Gln Leu Arg Tyr Leu Asn Leu Ser Ser Thr Ser Leu Arg Lys Ile Asn Ala Ala Trp Phe Lys Asn Met Pro His Leu Lys Val 310 305 Leu Asp Leu Glu Phe Asn Tyr Leu Val Gly Glu Ile Val Ser Gly Ala Phe Leu Thr Met Leu Pro Arg Leu Glu Ile Leu Asp Leu Ser Phe Asn Tyr Ile Lys Gly Ser Tyr Pro Gln His Ile Asn Ile Ser Arg Asn Phe Ser Lys Leu Leu Ser Leu Arg Ala Leu His Leu Arg Gly Tyr Val Phe Gln Glu Leu Arg Glu Asp Asp Phe Gln Pro Leu Met Gln Leu Pro Asn Leu Ser Thr Ile Asn Leu Gly Ile Asn Phe Ile Lys Gln Ile Asp Phe Lys Leu Phe Gln Asn Phe Ser Asn Leu 415 410 Glu lle Ile Tyr Leu Ser Glu Asn Arg Ile Ser Pro Leu Val Lys Asp Thr Arg Gln Ser Tyr Ala Asn Ser Ser Ser Phe Gln Arg His Ile Arg Lys Arg Arg Ser Thr Asp Phe Glu Phe Asp Pro His Ser 455 460 Asn Phe Tyr His Phe Thr Arg Pro Leu Ile Lys Pro Gln Cys Ala Ala Tyr Gly Lys Ala Leu Asp Leu Ser Leu Asn Ser Ile Phe Phe Ile Gly Pro Asn Gln Phe Glu Asn Leu Pro Asp Ile Ala Cys Leu 500 505 Asn Leu Ser Ala Asn Ser Asn Ala Gln Val Leu Ser Gly Thr Glu Phe Ser Ala Ile Pro His Val Lys Tyr Leu Asp Leu Thr Asn Asn Arg Leu Asp Phe Asp Asn Ala Ser Ala Leu Thr Glu Leu Ser Asp 545 550 Leu Glu Val Leu Asp Leu Ser Tyr Asn Ser His Tyr Phe Arg Ile 560 565 Ala Gly Val Thr His His Leu Glu Phe Ile Gln Asn Phe Thr Asn 580 Leu Lys Val Leu Asn Leu Ser His Asn Asn Ile Tyr Thr Leu Thr

595

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910

Cys Leu Glu Glu Arg Asp Trp Asp Pro Gly Leu Ala Ile Ile Asp Asn Leu Met Gln Ser Ile Asn Gln Ser Lys Lys Thr Val Phe Val 935 Leu Thr Lys Lys Tyr Ala Lys Ser Trp Asn Phe Lys Thr Ala Phe Tyr Leu Ala Leu Gln Arg Leu Met Asp Glu Asn Met Asp Val Ile The Phe The Leu Leu Glu Pro Val Leu Gln His Ser Gln Tyr Leu 980 990 Arg Leu Arg Gln Arg Ile Cys Lys Ser Ser Ile Leu Gln Trp Pro 1000 Asp Asn Pro Lys Ala Glu Gly Leu Phe Trp Gln Thr Leu Arg Asn 1010 Val Val Leu Thr Glu Asn Asp Ser Arg Tyr Asn Asn Met Tyr Val 1025 1030 Asp Ser Ile Lys Gln Tyr

Asp Ser Ile Lys Gln Tyr 1040

<210> 4 <211> 4199 <212> DNA

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His Phe Arg Leu Phe Asp Glu Asn Asn Asp Ala Ala Ile Leu Ile 735

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Tyr Leu Asp Leu Ser Phe Asn Asp Phe Asp Thr Met Pro Ile Cys 135
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Oconc.